

CLAIM AMENDMENTS:

1. (currently amended) A control method of an external control system fan clutch wherein the interior of a sealing housing constructed by a case of a non-magnetic material supported through a bearing on a rotating shaft body fixedly attaching a drive disk to its tip and a cover attached to this case is partitioned by a partition plate into an oil reservoir chamber and a torque transmission chamber for internally mounting said drive disk by a partition plate; a dam is arranged in one portion of the inner circumferential wall face of the cover opposed to the outer circumferential wall portion of the drive disk for collecting and reservoiring oil at the rotating time, and a valve member comprising a spring material and having a magnetic property and being arranged within the oil reservoir chamber, ~~the valve member for~~ closing an oil circulating flow passage formed in the partition plate between the torque transmission chamber and the oil reservoir chamber; an electromagnet is supported by said rotating shaft body through the bearing on the oil reservoir chamber side of said sealing housing, and a mechanism for controlling the opening and closing of the oil circulating flow passage ~~is constructed by, the method comprising:~~

_____ biasing the valve member against the partition plate for keeping the oil circulating flow passage in a normally closed condition;

_____ selectively operating the electromagnet for attracting the valve member and deflecting the valve member away from the partition plate for opening the oil circulating flow passage; ~~and the external control type fan clutch is constructed by a system for~~

_____ controlling rotating torque transmission from the a drive side to the a driven side by increasing and decreasing an effective contact area of the oil in a torque

transmission clearance portion formed by the drive side and the driven side; wherein the operation of electromagnet for opening and closing of said valve member oil circulating flow passage and a turning-off of the electromagnet so that the spring material biases the valve member against the partition plate for closing the oil circulating flow passage are controlled on the basis of a plurality of signals selected from the cooling liquid temperature of a radiator, a fan rotating speed, the temperature of transmission oil, a vehicle speed, an engine rotating speed, the pressure of a compressor of an air conditioner, and a turning-on or turning-off signal of the air conditioner.

2. (original) The control method of the external control type fan clutch according to claim 1, wherein a magnetic material of a ring shape is arranged between said electromagnet and the valve member, and is constructed by assembling the magnetic material into the sealing housing so as to transmit a magnetic flux of the electromagnet to the valve member through the magnetic material.

3. (currently amended) A control method of an external control system fan clutch wherein the interior of a sealing housing constructed by a case of a non-magnetic material supported through a bearing on a rotating shaft body fixedly attaching a drive disk to its tip and a cover attached to this case is partitioned by a partition plate into an oil reservoir chamber and a torque transmission chamber for internally mounting said drive disk by a partition plate; a dam is arranged in one portion of the inner circumferential wall face of the cover opposed to the outer circumferential wall portion of the drive disk for collecting and reservoiring oil at the rotating time, and a valve member comprising a spring material and having a magnetic property and being arranged within the oil reservoir chamber, the valve member for closing an oil circulating flow passage formed in the

partition plate between the torque transmission chamber and the oil reservoir chamber; an electromagnet is supported by said rotating shaft body through the bearing on the oil reservoir chamber side of said sealing housing, and a mechanism for controlling the opening and closing of the oil circulating flow passage ~~is constructed by, the method comprising:~~

_____ biasing the valve member against the partition plate for keeping the oil circulating flow passage in a normally closed condition;

_____ selectively operating the electromagnet for attracting the valve member and deflecting the valve member away from the partition plate for opening the oil circulating flow passage; ~~and the external control type fan clutch is constructed by a system for~~

_____ controlling rotating torque transmission from ~~the a~~ drive side to ~~the a~~ driven side by increasing and decreasing an effective contact area of the oil in a torque transmission clearance portion formed by the drive side and the driven side; wherein the operation of the electromagnet for opening the oil circulating flow passage and a turning-off of the electromagnet so that the spring material biases the valve member against the partition plate for closing the oil circulating flow passage are controlled so that an upper limit rotating speed is set to an optimum fan rotating speed required from the engine side; a fan rotating speed control signal is temporarily stopped on the basis of the differential speeds between an engine rotating speed, the fan rotating speed and said optimum fan rotating speed; the fan rotating speed control signal is temporarily stopped on the basis of an engine rotating acceleration or an accelerator (throttle) position acceleration; or a limit is given to a changing rate of the optimum fan rotating speed on the basis of the changing rate of said optimum fan rotating speed.

4. (original) The control method of the external control type fan clutch according to claim 3, wherein a magnetic material of a ring shape is arranged between said electromagnet and the valve member, and is constructed by assembling the magnetic material into the sealing housing so as to transmit a magnetic flux of the electromagnet to the valve member through the magnetic material.